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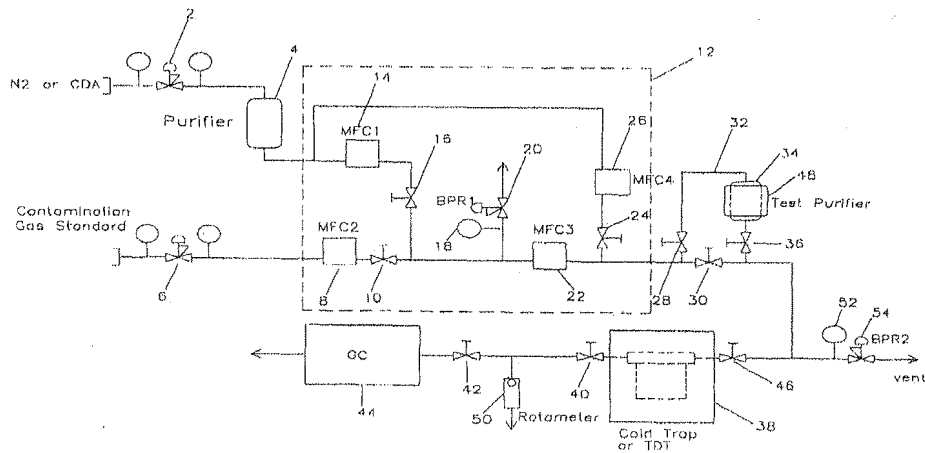
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 - (71) Applicant (for all designated States except US): MYKROLIS CORPORATION [US/US]; 129 Concord Road, Billerica, MA 01821-7036 (US).
 - (72) Inventors; and
 - (75) Inventors/Applicants (for US only): SPIEGELMAN, Jeffrey, J. [US/US]; 5289 Meadows Del Mar, San Diego, CA 92130 (US). ALVAREZ, Daniel, Jr. [US/US]; 10908 Black Mountain Road #1, San Diego, CA 92126 (US). TRAM, Allan [US/US]; 7745 Prairie Shadow Road, San Diego, CA 92126 (US).
 - (74) Agents: CARROLL, Alice, O. et al.; Hamilton, Brook, Smith & Reynolds, P.C., 530 Virginia Road, P.O. Box 9133, Concord MA 01742-9133 (US).
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(54) Title: METHOD FOR ANALYSIS OF CONTAMINANTS IN A PROCESS FLUID STREAM



(57) Abstract: The present invention relates to the monitoring of contaminant concentrations in manufacturing processes that employ fluid purification devices. The invention provides a sensitive method for analyzing contaminant concentrations in a process fluid stream using purification material to adsorb contaminants contained therein over an entire process.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N1/22 G01N1/34 G01N33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 651 247 A (OHMI TADAIRO) 3 May 1995 (1995-05-03) column 5, line 27 - column 7, line 20	1-4, 12-16, 21-30, 35
A	WO 96/01423 A (MILLIPORE INVEST HOLDINGS) 18 January 1996 (1996-01-18) pages 34,35; figures 1,2	1-11, 22-24
A	US 5 511 409 A (KNAEBEL KENT S) 30 April 1996 (1996-04-30) column 2, lines 17-35	1-5
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Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JIANG X ET AL: "PHOTOLITHOGRAPHY ADVANCES PUSH PURGE-GAS PURIFICATION" SOLID STATE TECHNOLOGY, COWAN PUBL.CORP. WASHINGTON, US, vol. 45, no. 11, November 2002 (2002-11), pages 53-54,56, XPO01132199 ISSN: 0038-111X	1-21
X	page 56, right-hand column -----	22-35
A	CASTELLO G ET AL: "AUTOMATED GAS CHROMATOGRAPHIC ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN AIR" JOURNAL OF CHROMATOGRAPHY A, ELSEVIER SCIENCE, NL, vol. 710, no. 1, 25 August 1995 (1995-08-25), pages 61-70, XP000520321 ISSN: 0021-9673	1-21
X	abstract -----	22-35
A	US 6 393 894 B1 (DASGUPTA PURNENDU K ET AL) 28 May 2002 (2002-05-28)	1-21
X	columns 2,6-8; figure 7 -----	22-35
A	US 6 361 696 B1 (ALVAREZ JR DANIEL ET AL) 26 March 2002 (2002-03-26) cited in the application -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2004/004845

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0651247	A	03-05-1995	JP 4353761 A	08-12-1992
			EP 0651247 A1	03-05-1995
			US 5447053 A	05-09-1995
			WO 9221966 A1	10-12-1992
WO 9601423	A	18-01-1996	US 5583282 A	10-12-1996
			CN 1130423 A	04-09-1996
			EP 0720739 A1	10-07-1996
			JP 9502810 T	18-03-1997
			WO 9601423 A1	18-01-1996
US 5511409	A	30-04-1996	NONE	
US 6393894	B1	28-05-2002	AU 6362700 A	13-02-2001
			CA 2380477 A1	01-02-2001
			CN 1375057 T	16-10-2002
			EP 1203231 A2	08-05-2002
			JP 2003530539 T	14-10-2003
			WO 0107903 A2	01-02-2001
US 6361696	B1	26-03-2002	NONE	